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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/585,894

07/11/2006

Tomohiko Ogasawara

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EXAMINER

METZMAIER, DANIEL S

ART UNIT	PAPER NUMBER
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1796

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06/02/2009

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/585,894	Applicant(s) OGASAWARA ET AL.	
	Examiner Daniel S. Metzmaier	Art Unit 1796	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11 July 2006 & 24 February 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>07/11/2006</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claims 1-6 are pending.

Priority

1. Receipt is acknowledged of papers received in this national stage application from the International Bureau (PCT Rule 17.2(a)), submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Specification

2. The disclosure is objected to because of the following informalities: the "Patent Document 1" and "Patent Document 2" referenced in the specification should cite the patent document by country code and publication number.

At page 3, line 8, the terms, "invisible water pipes" is unclear. Applicants should provide clarification and basis for amendments to the extent any amendments are made thereto.

Appropriate correction is required.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein

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were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

5. Claims 1-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gryj et al, US 5,866,534, in view of Vaslin et al, US 6,596,337, and/or Bošković et al, US 5,124,162.

Applicants claim:

1. (original) A method for producing an essential oil emulsion, characterized in that the method comprises stirring an essential oil at a rotation number between 3,000 and 20,000 rpm in an alkaline solution with a pH value between 9 and 13, to produce an emulsion.

Applicants characterize (page 9, 2nd full ¶): “For stirring, common emulsification and dispersion devices such as a stirring homogenizer, a media mill, a roll mill, or a high-pressure homogenizer, can be used.” It is noted that the variety of common emulsification and dispersion devices would have different emulsification rotation numbers. The rotational numbers for the varied apparatus would have been within the level of one having ordinary skill in the art at the time of applicants’ invention. This is further consistent with applicants’ failure to specify any specific rotational number with any specific apparatus.

Gryj et al (Abstract; column 1, lines 12 et seq; column 5, lines 44 et seq; and claims) disclose cleaning compositions comprising 5 to 25 % by weight pine oil, which has been characterized as terpene rich oil having disinfecting properties. Gryj et al (column 5, lines 44 et seq) disclose preparation methods of:

The composition of the invention may be prepared by **first mixing water, caustic, and fatty acid followed by** anionic surfactant, solvents, insect repellent, **perfume and pine oil** using any suitable **mixing device** which provides good mixing, e.g., a **high shear mixer**.

Gryj et al differs from the claims in the explicit characterization of the liquid as an emulsion, mixing with an alkaline solution having a pH between 9 to 13 and the rotation number between 3,000 and 20,000.

The initial components of the aqueous alkaline solution are water, caustic (KOH) and fatty acid (coconut fatty acids). These materials are characterized in the examples (column 6, lines 35 et seq; Table 1) to represent KOH and coconut fatty acids.

The coconut fatty acids are the only significant acid component of the aqueous phase. Coconut fatty acids comprise fatty acids having 6-18 carbon atoms but mostly comprise fatty acids having 10, 12, and 14 carbon atoms. A general representative estimation is for saturated fatty acids having 12 carbon atoms. The Table 1 fatty are employed at 5.0 and 9.6 % by weight. This equates approximately to (C₁₂ fatty acid Mol Wt ~ 200; 5.0gm / 200 gm/mol = 0.025 moles) 0.025 or 0.048 moles of fatty acid, respectively. Table 1 employs 3.0 and 5.8 g (KOH Mol Wt ~ 56; 3.0gm / 56 gm/mol = 0.054 moles) 0.054 or 0.104 moles, respectively.

Since the caustic is present in the aqueous solution at twice the molar amount of the monovalent acids present, the solution would clearly be expected to be alkaline and the pH would have been expected to be at least between 9 and 13. Regarding claim 3, the concentration of the aqueous alkaline solution would be expected to be between 0.00001 N and 0.1 N. The normality value of the caustic is the same as the molarity value since KOH has an equivalent = mole KOH. The normality or molarity is equal to the added caustic minus the concentration to neutralize the fatty acids. This equates to the exemplified values of (0.054 N of KOH – 0.025 N of fatty acids = 0.029 N alkalinity) 0.029 and 0.056, respectively.

Regarding the rotational number claimed, applicants clearly (page 9) contemplate common emulsification and dispersion devices.

Gryj et al (column 2, lines 18 et seq) characterize the compositions as pine oil dispersions. Gryj et al (column 1, lines 23 and 24) disclose pine oil is poorly soluble or insoluble in water. Dispersion is generic to emulsion.

Vaslin et al and/or Bošković et al disclose emulsification mixers for emulsification of essential oils including lemon oil and orange oil, which contain terpenes. Vaslin et al (examples 1-2) teaches the use of an Ultraturax T25 apparatus in the emulsification of essential oils at a rotation number of 9500 RPM. Bošković et al (examples 1-3) teaches the use of Ross (Model 100L) laboratory mixer-emulsifier at a rotation number of 9000 RPM.

These references are combinable because they teach dispersion of terpene oils including pine, lemon and orange oils. It would have been obvious to one of ordinary

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skilled in the art at the time of applicants' invention to employ the common emulsification and dispersion devices of Vaslin et al and/or Bošković et al at the rotation numbers conventionally employed therein as the high shear mixer disclosed in the Gryj et al reference.

Claims 4 to 6 claim an alkaline solution alternatively is an aqueous solution of a basic compound that is dissolved in water and are herein included in this rejection.

6. Claims 1-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Charlez et al, US 6,001,795, in view of Vaslin et al, US 6,596,337, and/or Bošković et al, US 5,124,162.

Applicants claim:

1. (original) A method for producing an essential oil emulsion, characterized in that the method comprises stirring an essential oil at a rotation number between 3,000 and 20,000 rpm in an alkaline solution with a pH value between 9 and 13, to produce an emulsion.

Applicants characterize (page 9, 2nd full ¶): "For stirring, common emulsification and dispersion devices such as a stirring homogenizer, a media mill, a roll mill, or a high-pressure homogenizer, can be used." It is noted that the variety of common emulsification and dispersion devices would have different emulsification rotation numbers. The rotational numbers for the varied apparatus would have been within the level of one having ordinary skill in the art at the time of applicants' invention. This is further consistent with applicants' failure to specify any specific rotational number with any specific apparatus.

Charlez et al (Abstract; examples; and claims) disclose cleaning compositions comprising .05 to 20 % by weight perfume comprising 5-15 % limonene and 12-22 % eucalyptus oil. Charlez et al (column 10, lines 43 et seq) disclose the pH of the compositions and preparation methods including no particular mixing order.

Charlez et al differs from the claims in the explicit rotation number between 3,000 and 20,000.

Regarding the rotational number claimed, applicants clearly (page 9) contemplate common emulsification and dispersion devices.

Vaslin et al and/or Bošković et al disclose emulsification mixers for emulsification of essential oils including lemon oil and orange oil, which contain terpenes. Vaslin et al (examples 1-2) teaches the use of an Ultraturax T25 apparatus in the emulsification of essential oils at a rotation number of 9500 RPM. Bošković et al (examples 1-3) teaches the use of Ross (Model 100L) laboratory mixer-emulsifier at a rotation number of 9000 RPM.

These references are combinable because they teach dispersion of terpene oils including pine, lemon and orange oils. It would have been obvious to one of ordinary skill in the art at the time of applicants' invention to employ the common emulsification and dispersion devices of Vaslin et al and/or Bošković et al at the rotation numbers conventionally employed therein as a mixer for mixing the Charlez et al compositions.

Claims 4 to 6 claim an alkaline solution alternatively is an aqueous solution of a basic compound that is dissolved in water and are herein included in this rejection.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Daniel S. Metzmaier whose telephone number is (571) 272-1089. The examiner can normally be reached on 9:00 AM to 5:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David W. Wu can be reached on (571) 272-1114. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

**/Daniel S. Metzmaier/
Primary Examiner, Art Unit 1796**

DSM